TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER
REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.			JOB ORDER NUMBER		APPROP. FY
	NAS5-	TASK NO.	AMENDMENT			
QSS Group, Inc.	99124	113		422-226-11-15-89		99

TASK TITLE: (NTE 80 characters; include Project name)

EOS PM Operations Development

APPROVALS. (Type or print name and sign)

		DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Bruce Thoman	*[signature] Bruce Thoman*	7/6/99	422	422	286-3353
BRANCH HEAD George Morrow, Project Manager for EOS PM	*[signature]* 7/6/99	DATE	CODE 422		PHONE 286-6820
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Robert S. Lebair, Jr.	*Deborah A. Clark*	DATE 7/12/99	CODE 560		PHONE 301-286-6382

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE? (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK) [X] NO [ ] YES	CONTRACTING OFFICER'S QUALITY REP. Larry Moore	DESIGNATED FAM:

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.	(To be completed by Contracting Officer) **C.O. Requested Quote on:** **Date:** JUL 22 1999

Contractor will develop specification or statement of work under this task for a future procurement.	[X] No	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] No	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[X] No	[ ] YES – SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO [X] YES	If yes: [ ] TOTAL [X] Partial	
		If partial, indicate onsite work in SOW by asterisk (*)	
Surveillance Plan Attached:	[X] No [ ] YES		

Highlighted Contract Clauses: (to be completed by Contracting Officer)

Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be July 22, 1999.

INCENTIVE FEE STRUCTURE (check one)
(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	__ No. 1	__ No. 2	__ No. 3	_X_ No. 4	__ No. 5
Cost	10%	50%	25%	25%	%
Schedule	15%	25%	25%	50%	%
Technical	75%	25%	50%	25%	%

(To be completed by Contracting Officer)

The target cost of this task order is $ 1,126,424   .

The target fee of this task order is $ 38,359   .

The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is $ 1,164,783   .

The maximum fee is $ 56,063   .

The minimum fee is $0.

AUTHORIZED SIGNATURE.

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

[signature] Lorrie L. Eakin	12/9/99	Lorrie L. Eakin Contracting Officer
SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE.

AUTHORIZED SIGNATURE	DATE

GSFC FORM 703-1845   12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

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QSS Group, Inc.	99124	113	.

Applicable paragraphs from contract Statement of Work:　　　Function 2 B, C and Function 5 A

STATEMENT OF WORK:

See Page 3.

PERFORMANCE SPECIFICATIONS:

See Page 7.

APPLICABLE DOCUMENTS:

TASK END DATE:　　　　　　6/30/00

MILESTONES/DELIVERABLES AND DATES:

See Page 5.

PERFORMANCE STANDARDS:

　　　　　Schedule:　　On-time delivery of documents specified in the deliverables list
　　　　　Technical:　　Meets mission support requirements, as determined by the ATR

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

Bruce Thoman, bulding 16, room 141

GSFC FORM 703-1845a

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EOS PM OPERATIONS DEVELOPMENT

STATEMENT OF WORK:

The contractor shall apply experienced expertise to assist in accomplishing the objectives of the
EOS PM Mission Systems Manager (MSM) position for the EOS PM Project. The contractor
shall assist the MSM in his/her responsibilities for development of the plans, procedures and
processes of the PM Flight Team. The Flight Team is comprised of project and spacecraft
engineers, instrument teams, the Flight Operations Team, and other supporting centers of
expertise. The contractor is expected to develop expert knowledge of observatory systems and
make significant progress toward development of space and ground system operations plans and
procedures. Further, the contractor shall take an active role in relating observatory systems
knowledge to the Flight Team, assist the FOT in preparing for the mission, and serve as a training
resource for all of the Flight Team. The contractor shall also assist the MSM in establishing an
efficient Flight Team organization and in developing operations methodologies for use by the
team. The work specified in this task is intended to assist the Flight Team in preparing for the
launch of the EOS PM observatory; currently planned for December 21, 2000.

The contractor shall function under the guidance of the PM Mission Systems Manager (MSM),
who shall resolve conflicts, establish due dates, and allocate responsibilities as required. Travel
will be required, as directed by the MSM, to support technical meetings and reviews, and to
interact with members of the PM Flight Team.

Specific areas requiring action of the contractor are:

- Supplement the development of operations readiness through analysis and critique of
  operations plans and procedures, spacecraft and instrument operations documentation,
  mission planning procedures, EOC capabilities and effectiveness, spacecraft to EOC
  interoperability, operations database development, instrument operations and science data
  collection, interfaces to external support elements, and orbit dynamics and control.
- Acquire expert knowledge of observatory subsystems and instruments for development of
  operations scenarios, anomaly resolution processes, and system analysis capabilities. The
  contractor shall make this knowledge available as a resource for the Flight Team.
- ~~Develop a detailed Flight Operations Plan (FOP) and work to compile a set of observatory~~
  ~~operations scenarios that will lend themselves to the production of console operating~~
  ~~procedures.~~
- Compile and categorize observatory information and documents in order to establish a
  technical reference library in the EOC. The contractor shall also develop an accompanying
  library document tree covering the contents of the library.
- ~~Develop a plan for off-line performance trending/assessment of observatory systems.~~
- ~~Develop a plan, with accompanying operations scenarios, for allocation of stored commands~~
  ~~and implementation of instrument and spacecraft stored command operations.~~

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- Participate in observatory-ground system interoperability test scenario development and test execution.
- Define the functional requirements and responsibilities for the members of the PM Flight Team.
- Develop and document the mission-management chain of command and develop operational procedures for the interworking of the Flight Team (non-FOT) and the FOT.
- Develop and document an anomaly detection and resolution process for the Flight Team.
- Plan and provide training to the Flight Team (non-FOT) on use of control center systems.
- Develop and document the Flight Team (non-FOT) facility requirements.
- The contractor shall provide a near-continuous presence during observatory integration testing. The contractor shall observe the conduct of observatory test at the manufacturer's facility, anomaly investigation and resolution, keep records of observatory test performance reviews, and maintain records of the test problem/resolution process.
- On a non-interference basis, the contractor will work with the instrument teams and the spacecraft manufacturer to develop knowledge and participate in spacecraft integration tests.
- Provide Observatory operations inputs to launch vehicle mission planning process.
- Develop knowledge of the Space Network (SN) and Ground Network (GN) (EPGS) to assist in the mission planning, network testing and training.
- Support the planning and execution of mission readiness testing.
- Develop, prepare, and replicate presentation materials to be used in EOS PM management and formal mission reviews. Organize and conduct working group meetings to develop and edit presentation materials.
- Support the PM MSM in his responsibilities for management and conduct of the Operations Working Group (OWG). Develop and maintain the OWG action item database.
- Provide technical leadership and other support for the planning and conduct of mission simulations. Define the simulation program, establish a training and simulation working group, prepare and distribute script and other simulation materials, prepare and operate the observatory simulator and provide direct management of all simulation events. The contractor should also conduct simulation debriefs and track simulation Action Items (AIs).
- Plan, schedule and support vendor supplied spacecraft training sessions.
- Review and assist in editing vendor produced operations documents for completeness and GSFC operations perspective. The contractor shall work with the vendor to evaluate and improve documented operations methodologies and processes.
- Develop and maintain EOS PM Mission Rules and support development of Launch Commit Criteria for both space and ground systems.
- Develop EOS PM mission communications plan which will define communications requirements for all phases of the mission.
- ~~Develop (with the spacecraft vendor, FOT, instrument teams, etc.) and maintain the EOS PM Launch and Early Orbit script.~~
- Provide EOS PM mission support as members of the Flight Team through Observatory on-orbit checkout and acceptance as a fully validated and functional entity.

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OTHER RESOURCES:

Travel to several US cities and Japan shall be considered within the scope of this task. The instrument teams are located at the JPL, Pasadena, CA; NASA Langley, Langley, VA; Mitsubishi Electric Co., Kamakura, Japan; and NASA Goddard Space Flight Center, Greenbelt, MD. At least four trips to each remote instrument team location should be planned. Travel to the spacecraft manufacturer [TRW, Inc., Redondo Beach, CA] is also expected. At least 6 trips should be planned for status reviews and other operations engineering meetings. A nearly continuous presence at the manufacturer should also be planned to monitor spacecraft vendor integration and test activities. Daily travel to the GSFC to attend meetings and coordinate activities should also be planned. Other travel is expected but cannot be specified in this work statement. Reimbursement for travel cost shall be in accordance with FAR 31.205-46 [Travel Costs] with further limitations as follows: air transportation shall be reimbursed at coach fare and automobile transportation mileage shall be reimbursed at the current rate authorized for Government employees.

PERIOD OF PERFORMANCE:

The performance of this task is expected to continue through June 30, 2000.

DELIVERABLES/MILESTONES AND DATES:

1. The contractor shall organize, edit, and reproduce the presentation materials necessary to complete the PM project management and formal reviews. The planned date for the Mission Operations Review is October 27, 1999.
2. Generate and maintain the Operations Working Group action items database. Provide the PM MSM with a status of the database monthly.
3. Develop and maintain an Operations Issues Database. Devise an associated risk assessment/mitigation reporting system. Provide the PM MSM with a status of the database monthly.
4. Develop and maintain a schedule of Operations Key Events/Milestones for the mission. The Key Events/Milestones list is required by the MOR, but must be updated periodically.
5. Develop and document the Launch Management Plan. Develop and document the PM mission rule set. The Draft Launch Management Plan is required by ~~September 15,~~ *October 20* 1999. The initial mission rule set is required by June 15, 2000.
6. Provide a monthly status report detailing work progress, problems, and items requiring PM project attention.
7. ~~Develop and maintain a PM project simulation plan. A draft plan is required by September 15, 1999. A final plan is required by May 15, 2000.~~
8. Develop and maintain a debriefing report system. The report will summarize the simulation, capturing problems and/or deficiencies observed. Actions, resolving problems and/or deficiencies, shall be added to the Operations Issues Database. Debriefing reports shall be generated at the conclusion of each simulation event.

7. PM Mission Operations Readiness Review Presentation (draft October 20, 1999; final December 31, 1999).

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10. PM Operations www homepage (October 20, 1999)

9. Plan, develop, and distribute training materials to Flight Team members for training on use of GSFC control center systems. Prepare and distribute console handbooks containing guidance on use of control center systems. Training materials shall be completed by June 15, 2000. Preliminary console handbooks shall be prepared for use by June 15, 2000. It is expected that console handbooks will require augmentation and amendment continuously until shortly prior to launch.

~~10. Develop and maintain the Launch and Early Orbit script. The script shall be available for the first mission simulations and will require constant maintenance as lessons are learned during the pre-launch time frame. A draft script is required by June 15, 2000.~~

~~11. The contractor shall develop a description of the PM mission-wide configuration management process, capturing the various hierarchy levels of document CM processes and relationships. This effort shall capture the CM processes of both the ESDIS and PM projects, from the Level 1 mission requirements down to the lowest level FOT procedures. A preliminary version is required for presentation at the MOR. The final version is outside the scope of this task.~~

~~12. Develop and maintain a Flight Operations Plan. A draft plan is required by December 15, 1999. A final plan is required by March 15, 2000.~~

11. ~~13.~~ Develop and maintain a technical reference library document tree. The initial tree is required by March 15, 2000. Updates shall be delivered on an as needed basis.

~~14. Develop a plan of off-line performance trending/assessment of observatory systems. A draft plan is required by June 15, 2000. A final plan is outside the scope of this task.~~

~~15. Develop an operational plan for management of stored commanding. A draft plan is required by September 15, 1999. A final plan is required by December 15, 1999.~~

12. ~~16.~~ Provide a documented statement of the facility requirements of the Flight Team (non-FOT). The statement is required by December 15, 1999.

13. ~~17.~~ Coordinate the completion of spacecraft vendor provided training. Identify schedule and facility location to the Flight Team. Training is planned to begin in March 15, 2000.

14. ~~18.~~ Develop and document a mission communications plan. A draft plan is required by December 15, 1999. A final plan is required by June 15, 2000.

PERFORMANCE SPECIFICATIONS:

- Autonomy and professionalism of the contractor's work: Acceptable performance is that the Mission Systems Manager is satisfied that the contractor is completing the work with minimal direction and oversight.
- Analysis and planning of operations: Acceptable performance is that execution of plans and procedures occur without anomalies attributable to flaws in the plans or procedures.
- Operations readiness of the Flight Team: Acceptable performance is that the team executes operations plans and interfaces without anomalies attributable to the plans.
- Preparation of formal review materials: Acceptable performance is that upon finalization the materials are current, accurately reflect operations plans, and errors are minimal.
- Management of the Operations Working Group: Acceptable performance is that the group transaction history contains minimal errors and that transaction histories are disseminated to the group without lapses in distribution.

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- Support of mission readiness testing: Acceptable performance is that the MSM believes that significant lapses in planning and requirements testing have been identified and reported to the Mission Readiness Test Team.
- Support of mission simulations: Acceptable performance is that the simulations were conducted according to the planned schedule and conduct of simulations occurs without anomalies attributable to the planning and management of the events by the contractor.
- Flight Team training on control center systems: Acceptable performance is that training materials, containing minimal errors, are provided to the Flight Team. Also, that training activities are managed in a manner that provides team members with ample opportunities to receive training, and that adequate direct support in use of control center systems is provided to team members during training, simulations, and operations.
- Identification and tracking of issues: Acceptable performance is that the MSM believes he is being kept informed and that issues are captured with minimal errors.
- Maintenance of Launch and Early Orbit Script: Acceptable performance is that a relevant and accurate script is available for mission simulations and testing.
- Development of the Launch Management Plan: Acceptable performance is that the plan is kept current, accurately reflects operations plans, and contains minimal errors.
- Monthly status report: Acceptable performance is that the MSM is satisfied that he/she is being kept informed of the status of work performed and of issues requiring project attention.
- Flight Team training materials: Acceptable performance is that the materials are current, accurately represent systems operations, and contains minimal errors.
- Configuration management process: Acceptable performance is that the process is accurately represented in the document and contains minimal errors.
- Flight Operations Plan: Acceptable performance is that, upon finalization, the plan accurately represents operations plans, mission requirements, and contain minimal errors.
- Reference library tree: Acceptable performance is that the final document tree contains minimal errors.
- Off-Line Performance Trend Plan: Acceptable performance is that the plan addresses the scope of necessary performance analysis and contains minimal errors.
- Stored Commanding Operations Plan: Acceptable performance is that, upon completion, the plan addresses the scope of necessary stored command operations and contains minimal errors.
- Mission Communications Plan: Acceptable performance is that, upon finalization, the plan addresses the scope of necessary mission communications and contains minimal errors.